

## **INNOVATION ZONE PLANNING GRANT REPORT**

Kitsap Economic Development Council

### **“Water Quality Enterprise and Education in Kitsap County”**

#### **INTRODUCTION:**

On May 11, 2006 the Office of the Governor in partnership with CTED issued a request for proposal offering competitive grants to encourage local collaborations that would explore *Innovation Zones* as economic and workforce development tools.

The Kitsap Economic Development Council (KEDC), in concert with members of a local Project Management Team (Appendix-A), received one of these grants. KEDC is the project manager and serves as the fiscal agent. Major collaborators are listed in Appendix-B. We are pleased to present a strategy for establishing an *Innovation Zone* on the Kitsap Peninsula. We trust it will serve as a template for the establishment of *Innovation Zones* elsewhere in Washington State.

We recognize that enterprises in such zones can benefit from concentrations of skilled workers, technology transfer, collaborative networks, specialized infrastructure, and market positioning. Innovation as a strategy relies on the personal, intellectual, and commercial synergy to introduce new ideas, methods or designs.

The “innovation” process that transforms ideas into commercial value is much more than the purview of scientists and engineers. An enterprise can be innovative in the way it organizes or conducts business. A public agency can be innovative in the way it allocates its resources or serves its constituency. A group of businesses can be innovative as its members collaborate to gain market share or reduce costs. An educational institution can be innovative in the way it designs and delivers relevant curriculum.

In a spring 2006 report, the Governor’s Global Competitiveness Council identified **water** and **energy** as priority areas for infrastructure investment. Our “Water Quality Enterprise and Education in Kitsap County” Innovation Zone attends to both. A focus on water quality will create opportunities for us to rejuvenate mature industries like commercial fishing and forest products. A complementary focus on clean technology leverages exciting developments in this emerging sector.

## ACTION STEPS:

Four components create a viable Innovation Zone on the Kitsap Peninsula. The core theme, introducing an entrepreneurial approach to water quality management and research, expands traditional collaborations for commerce, education, and workforce development and measures for effectiveness. The four “Project Elements” outlined on the following pages identify a compelling and organizing interest: sustainable water quality management. Participants in these sectors have a direct or indirect interest in managing long-term water quality that is compelling for Kitsap County, and particularly that associated with the marine environment.

Each element includes an inventory of *Operational Strategies & Policy Implication*:

- 1) **Encourage collaboration and commerce across traditional cluster boundaries.** The Kitsap proposal envisions a compound cluster that corrals the following established sectors: aquaculture, commercial fishing, environmental services, marine recreation & tourism, forestry and wood products, and clean technology. It is at the intersection of these clusters that new opportunities for synergy and innovation, for education and enterprise will most likely occur. (See Appendix-C for aggregate sales and employment data associated with these sectors.)
  - a. *Action Item:* Inventory players by cluster and host meeting to begin assessment of existing resources and potential gaps. *Lead:* KEDC
- 2) **Promote partnerships across traditional education and workforce development boundaries.** This is particularly important in the context of curriculum development and delivery strategies. A logical manifestation of this would be a skills panel to bring diverse partners together and the creation of a “Water Quality Center of Excellence”. Employment in this compound cluster (or cluster intersection), particularly for those without college degrees, requires people with interdisciplinary knowledge, skills and abilities – people that can apply physical and biological sciences, engineering and construction management, and trade and craft expertise to an array of practical solutions.
  - a. *Action Item:* Compile labor market profile to determine needs in training and education. *Lead:* Leif Bentsen, Workforce Development
- 3) **Establish a “sustainability index” with metrics that takes into consideration a triple bottom line of environmental stewardship, cultural & social values as well as business and the advancement of economic development mandates.** This will require new methods and measures for tracking success, particularly as regards education and workforce development initiatives.
  - a. *Action Item:* Review and outline metrics for environmental, social and economic mandates. *Lead:* WSU Extension and Weston Labs.
- 4) **Create an entrepreneurial approach to water quality management and research.** The prior three action steps are foundational for the innovation, research and commercialization that can result from work centered on water quality. Public and private interests together will drive entrepreneurs to transfer ideas to a business case.
  - a. *Action Item:* Develop an entrepreneurial program centered on water quality. *Lead:* KEDC and WSU Extension.

## **PROJECT ELEMENTS:**

### **A. Defining Innovation Zone Boundaries:**

Our proposed Innovation Zone boundary is defined by reference to three parameters: transportation and educational corridors, commercially valuable natural resources, and ongoing cluster initiatives.

#### **Transportation and Education:**

The 25-mile stretch of highway (SR-3) from Port Gamble in North Kitsap County to Bremerton National Airport establishes the geographic spine of the proposed Innovation Zone. Adjacent to this corridor Olympic College has campuses in Poulsbo and Bremerton. Other existing educational opportunities include Suquamish and Port Gamble/S'Klallam Tribes, Stillwaters Environmental Center, University of Washington Sea Grant Program/Kitsap, IslandWood, KPUD #1, and public school districts (including West Sound Tech). In addition, the Olympic Workforce Development Council, which coordinates a marine trades cluster in conjunction with Pacific Mountain and northwest workforce development service areas, has begun organizing a focus for Kitsap County marine trades.

#### **Valuable Natural Resources and Ongoing Cluster Initiatives:**

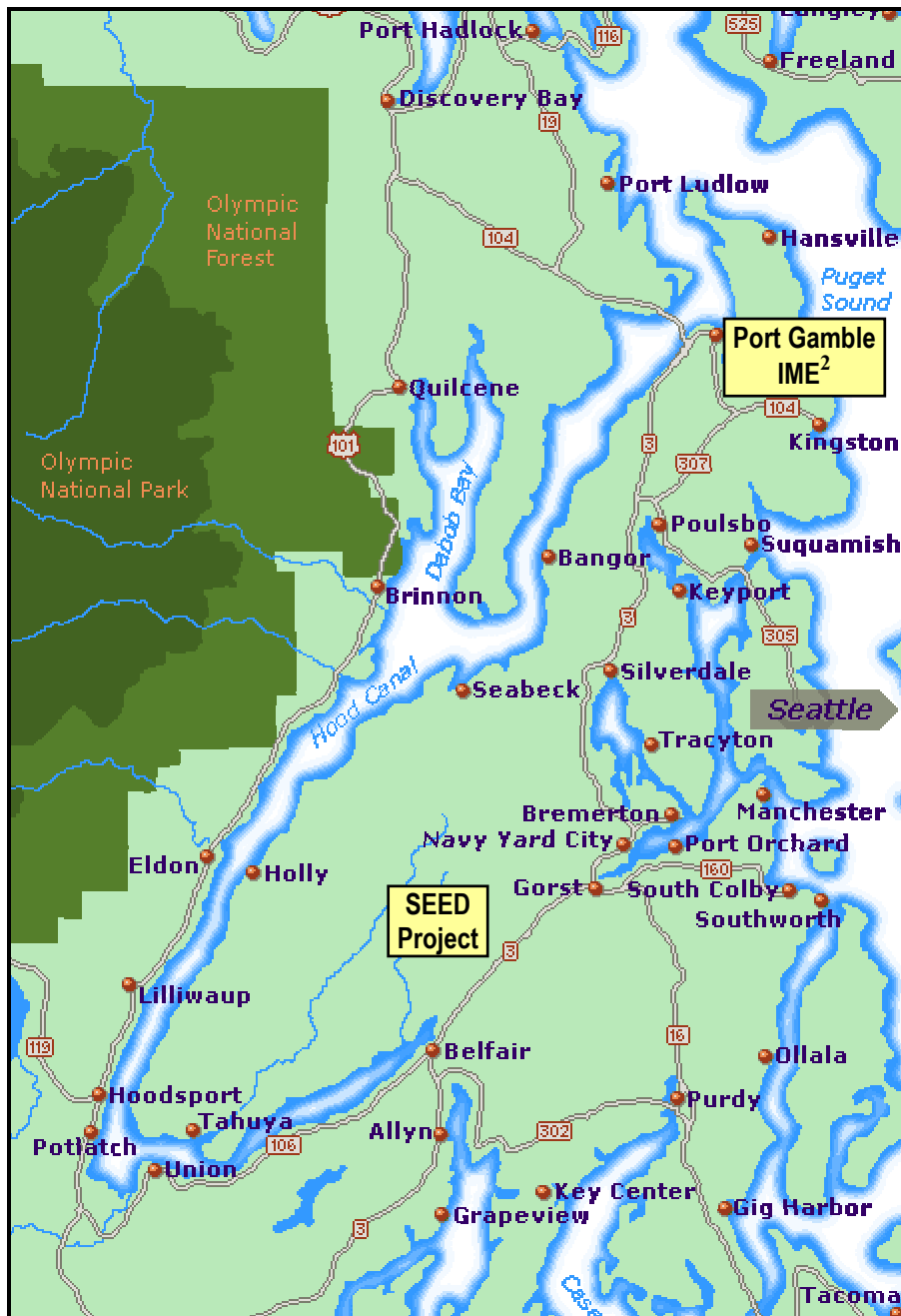
The Zone is further defined by over 225 miles of pristine marine shoreline that includes much of the Hood Canal Watershed. This shoreline is replete with valuable marine flora and fauna. Enterprises associated with this marine environment include commercial fishing; aquaculture; forest products, environmental engineering and services; marine equipment & services, marine-related recreation and tourism, and clean technology. All have a compelling interest in water resource management.

Two emerging cluster development projects, the Institute for Marine Enterprise & Education (IME<sup>2</sup>) at Port Gamble and the Kitsap Sustainable Energy & Economic Development (SEED) project at the Port of Bremerton, serve as the innovation hubs of the Zone. Much of the Zone's business and economic development resources and R&D activity will be concentrated at these locations.

Diverse scientific, engineering, and business management disciplines are associated with enterprises in and around this Zone. These disciplines include oceanography, hydrology, meteorology, geology, marine engineering, biochemistry, and microbiology. The opportunity for collaborations can leverage R & D initiatives and encourage innovative practices.

The Zone will benefit from a pattern of collaboration that already exists in the area. Marine skills panels have been operational for several years under the auspices of the Olympic Workforce Development Council (OWDC). The Olympic Regional e-Development Initiative drew seven counties together from 2003-2005 to explore and leverage for business development purposes local telecommunications and information technology assets. The OWDC and Olympic College are also partners of the NW Center of Excellence for Marine Manufacturing and Technology based at Skagit Valley College in Mount Vernon.

In late 2005 a seven county coalition, the Northwest Enterprise Development Alliance, made application for a WIRED grant. Although the Alliance was not a grant recipient, the collaboration generated a number of innovative economic development strategies that can apply in the context of an Innovation Zone.



Map Highlighting Emerging Cluster Development Projects  
in the Kitsap Innovation Zone

**A. Operational Strategies & Policy Implication:**

**Boundaries**

- The parameters by which “Innovation Zones” are defined need not be limited to geographic or political boundaries. Additional parameters might include:
  - ✓ Critical natural resources
  - ✓ Physical infrastructure including broadband and electric power
  - ✓ Business climate including appetite for change
  - ✓ Leadership and political will
  - ✓ Labor market dynamics
  - ✓ Existing networks and patterns of collaboration
  - ✓ Current watershed boundary lines
- Hood Canal Zone boundaries are so drawn that they include or encourage potentially valuable players outside the zone to engage those within.

**Cluster Relationships**

- Give preference to areas that already manifest vibrant business and economic development communities and are well positioned to leverage existing networks and patterns of collaborations.
- Strengthen working relationships with cognizant state and federal regulatory agencies in ways that encourage innovation as well as environmental stewardship to achieve the triple bottom line of sustainability (environmental, economic, and social/cultural values).
- Identify partners already working together on water quality issues and contact them regarding expansion and commercialization potential.

**Opportunities**

- Expect key players to manifest an appetite and capacity for marketing and business development in order to establish and maintain a vibrant Innovation Zone.
- Give preference to Innovation Zones that are positioned to leverage infrastructure identified as priority by the Governor’s Global Competitiveness Council.

**PR**

- Put in place a statewide marketing and public relations program to broaden the base of support for Zone development.

## **B. Leveraging Resources to Facilitate Innovation:**

Part of the strategy for facilitating innovation in the zone includes the identification of commercial enterprises located on or in the vicinity of the shoreline – enterprises that have a stake in the quality of the marine environment and related watersheds. Beyond their common drive for profitability and business success, these enterprises share a commitment to preserve and enhance environmental quality. Such a commitment will stimulate R&D activity in the Zone and attract other enterprises with similar mandates and ambition.

### **Partnerships:**

Partnerships include institutions of higher learning with research capabilities, workforce development organizations, economic development organizations, private sector businesses, business support organizations, commercial lending institutions, venture capital, foundations, and select government organizations. The educational institution does not have to be located within zone boundaries, but must be formally linked to zone activities.

There are active, within the proposed Zone, various industry groups and environmental conservation organizations from which information about potential partners can be garnered. More to the point they also have a history of collaboration on business and economic development issues and environmental stewardship. These groups include:

- Puget Sound Restoration Fund
- Hood Canal Coordinating Council
- Pacific Shellfish Growers Association
- Hood Canal Salmon Enhancement Group
- Liberty Bay Foundation
- WA Departments of Ecology
- WA Department of Fisheries
- US Corps of Engineers

### **Data:**

Baseline information about labor markets and skill issues in the proposed zone will be secured from the following agencies:

- Employment Security
- Olympic Workforce Development Council
- Pacific Mountain Workforce Consortium
- Marine Center of Excellence
- Puget Sound Regional Council
- Hood Canal Coordinating Council

We will obtain from target employers data associated with their position classification schemes, staffing and recruiting practices, and employee development policies. This will be correlated with information provided by our education and workforce development partners about their offerings and assets. The information will be aggregated to develop a profile of the Zone's labor market dynamics to include talent attraction and a framework for relevant "Water Quality Center of Excellence" workforce development initiatives. Initial themes across industries will include:

- Vision
- Organizations and advocacy for policy innovations
- Research and identify needs and assets
- Education and workforce preparation
- Publicity

***B. Operational Strategies & Policy Implication:***

**Relationships**

- Create “Knowledge Neighborhoods” that focus talent and resources in clusters and transform communities into technology and business incubators. Within these neighborhoods an aspiring entrepreneur can find ready resources including research and peer groups, entrepreneurial support, venture capital, and workforce and financial assistance.
- Develop a cadre of “Innovation Ambassadors” who are available to mentor local enterprises in the context of technology commercialization and business practices and can support local education and workforce development initiatives.
- Identify displaced or underemployed workers associated with traditional resource based industries (fishing, forestry, agriculture) and encourage their participation in worker retraining programs for jobs in the Zone.
- Establish “Work and Learn” programs that provide youth opportunities to participate in innovative water quality management and environmental stewardship initiatives, e.g. job shadowing, internships, mentoring and entrepreneurial development.

**Resources**

- Establish two-year watershed technician program with one-year apprenticeships.
- Develop broadband infrastructure throughout the zone to include readily available last-mile connectivity.

**Opportunities**

- Facilitate access to both debt and equity capital markets. Create a revolving loan fund that offers preferential interest rates to enterprises that engage in sustainable business and economic development practices.
- Coordinate with existing Marine Skills Panel.
- Establish a Water Quality Management Skills Panel.

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- The Clean Technology Industry Cluster has attractive potential, but is less mature than the existing clusters and will benefit from the following:
  - ✓ Develop a vision for the cluster.
  - ✓ Create or work with an advocacy/trade association to organize a policy framework, a cluster brand identity, and financial resources/innovative financing methods.
  - ✓ Seek educational and research capacities – and a solid foundation in science, math and technology.
  - ✓ Showcase local technologies and market industries or occupations that make up the cluster.
  - ✓ Foster a climate of entrepreneurship.
- Provide financial incentives, such as grants, to local high schools and community colleges to strengthen academic programs that prepare qualified students for employment within the Zone or with affiliated enterprises, e.g. biological or watershed technicians.
- Provide scholarships to qualified high school students to pursue college-level studies and internships in disciplines relevant to Zone activity. The award of such scholarship would be contingent upon the student's agreement to work for a Zone enterprise or otherwise serve in a capacity that advances the mission of the Zone.
- Advocate for legislation providing tax incentives for enterprises that leverage Zone programs and resources to develop new technologies or create high-value jobs.

### **PR**

- Create and host forum highlighting opportunities for business within the Innovation Zone to include the following:
  - ✓ Best practices
  - ✓ Business-to-business opportunities
- Establish a Web-based “marketplace” to facilitate buyer-seller matches for Zone players, provide industry/cluster information, highlight employment opportunities, promote special events, etc.
- Sponsor quarterly “Innovation & Technology Commercialization” forums or conferences at which Zone players can showcase their accomplishments, stimulate collaborations, and promote business development.



**C. State & Local Investments & Industry Support:**

Public and private sector investment and support are vital to the success of the Innovation Zone. Funding, enabling legislation, and a teamwork approach to rules and regulations will provide the public sector foundation. Private industry will create investments and jobs to support the Innovation Zone.

All public and private sector involvement will be tempered by the sustainability index – is it good for the environment? Does it add to the local and state economy in a significant manner? Does it provide a lasting social or cultural value to the community?

**C. Operational Strategies & Policy Implication:**

**Relationships**

- Advocate legislation to mandate that all state agencies involved with water quality and marine resource management collaborate to encourage innovative practice and do not unnecessarily burden entrepreneurial initiatives.
- Establish a “Council of Innovation Zone Administrators” to encourage partnerships among Zones and promote best practices statewide.
- Establish relationship with tribes and existing water quality programs as they relate to the Innovation Zone.

**Resources**

- Provide state tax or other financial incentives to enterprises that create jobs in Innovation Zones.
- Establish a revolving loan fund to support technology commercialization initiatives.

**Opportunities**

- Offer incentives to education institutions and workforce development agencies to develop and deliver curriculum relevant to Innovation Zone and cluster-based economic development mandates.
- Award or recognize businesses that operate, utilizing the triple bottom line of sustainability.

**PR**

- Advance a national marketing and business recruitment program that showcases the State’s Innovation Zones to support business attraction.
- Host series of public policy forums that showcase Innovation Zone accomplishments and promote technology literacy and competence.

#### **D. Tracking Technology Advances:**

The growing global consciousness about water quality and water resource management compels both public and private interests to collaborate on programs that advance stewardship of the resources. These collaborations will necessarily include leveraging the R&D capacity of the various sectors linked to this resource.

It is important to envision water quality and water resource management in systems terms – that call for an integrated approach to science and research in the field. One of the principal technology trajectories involves better ways to *monitor, measure, and model* the resource. There is a clarion call for an integrated, interdisciplinary approach that leverages the values and practices of key fields including oceanography, microbiology, hydrology, climatology, electronic engineering, and biochemistry.

Aside from select specialists with postgraduate degrees, the most valuable employees will have interdisciplinary knowledge, skills, and abilities – those equipped to do precision laboratory analysis as well as practical fieldwork. Innovative education and workforce development approaches will be required to break down the traditional barriers between disciplines and design a course of study where diverse fields intersect. This discipline would be addressed by creating a two-year watershed technician program.

The theory and practice of aquaculture is rapidly evolving and driven by cutting edge research. Rather than business as usual on a grander scale, the growth of the industry will come through more efficient use of facilities and equipment, the development and substitution of new, high value components, new technologies, and processes including poly-culture of marine species, and diversification of the new markets. Expect innovation in bio-security systems and environmental stewardship of coastal waters as well.

Examples of technology innovations that manifest in the clean technology cluster include the following:

- Generating electric power from tidal flows
- Composting organic marine byproducts for fertilizers
- Changing forestry practices that reduce runoff and nitrogen loading
- Increasing use of MycoRemediation™ techniques to reduce toxicity of select waste streams such as marine pilings, telephone poles, and railroad ties.
- Converting solid waste to value added commodities
- Improving waste water treatment and recycling systems

***D. Operational Strategies & Policy Implication:***

**Relationships**

- Invite representatives from the diverse sectors that make up the Innovation Zone to participate on an interdisciplinary review team that reviews the “sustainability index” and metrics recommendations.

**Resources**

- Establish a “Technology Assessment Task Force” to explore ways in which innovative technology can be attracted to or otherwise developed in the Zone to create competitive advantages for local enterprises. At least the following collaborators in concert with select enterprise executives will serve on this task force:
  - ✓ Washington Technology Center
  - ✓ Olympic College
  - ✓ WSU Extension - Kitsap
  - ✓ University of Washington – Sea Grant
  - ✓ IslandWood
  - ✓ Bainbridge Graduate Institute

**Opportunities**

- Establish environmental, social, and economic measures for sustainable water quality management.
- Develop measures to identify and increase technology practices. Measures may include:
  - ✓ SBIR and STTR grants awarded in relation to water quality products or practices
  - ✓ Patent applications and awards in relation to water quality products or practices
  - ✓ Increased employment in water quality sector
  - ✓ Increased investment – public and private – in relation to water quality
  - ✓ Increased participation in school internship programs

**PR**

- Write and distribute “success stories” of collaborations and collaboration.
- Link outreach with existing public involvement and education opportunities.

**APPENDIX A**

**Project Management Team**

Leif Bentsen – Olympic Workforce Development Council

Arno Bergstrom – WSU Extension, Kitsap County

Tim Botkin – Kitsap SEED/Port of Bremerton

Kathy Cocus – KEDC (Project Manager)

Joth Davis – Taylor Shellfish, Shelton, WA

Mary Garguile – Olympic College

Charlotte Garrido – WSU Extension, Kitsap County

Matt Matayoshi – EDC of Mason County

David Porter – KEDC

Dwight Sutton – IslandWood Board of Directors & KEDC Board of Directors

Tim Thomson – Port of Bremerton

Jack Word – Weston Solutions, Port Gamble

## APPENDIX B

### Collaborators by Category

*(i) Educational & Research Institutions/Organizations:*

- Olympic College (principal)
- WSU Extension – Community and Economic Development
- University of Washington – Sea Grant Program
- Still Waters Environmental Education Center
- IslandWood Environmental Center
- Bainbridge Graduate Institute
- Northwest Indian College

*(ii) “Innovative” Enterprises:*

- **Weston Environmental Solutions** – Port Gamble (principal)
- Art Anderson Associates – Bremerton
- Taylor Shellfish - Shelton
- Water Environmental Services – Bainbridge Island
- Olympic Property Group (Pope Resources) – Poulsbo
- Ocean Spar Technology – Bainbridge Island
- Advanced Acoustic Concepts - Bremerton
- Paladin Data Systems (Interlocking Software) – Poulsbo
- Alderbrook Resort - Union

*(iii) Public Agencies:*

- **Port of Bremerton** – (principal)
- Kitsap Sustainable Energy and Economic Development (SEED)
- Hood Canal Coordinating Council
- Suquamish Tribe
- Port Gamble-S’Kallam Tribe
- Skokomish Tribe
- WA - Department of Ecology (DOE)
- WA - Community Trade & Economic Development (CTED)
- WA - Department of Fish and Wildlife
- US Navy
- NOAA
- US Geological Survey
- Puget Sound Prosperity Partnership

(iv) *Workforce Development Entities:*

- **Olympic Workforce Development Council (OWDC)** (principal)
- Washington State Employment Security Department (ESD)
- Career & Technical Education (CTE) directors at local school districts

(v) *Economic Development Organizations:*

- **Kitsap Economic Development Council** (principal)
- Mason County EDC
- Chambers of Commerce
- Visitor & Convention Bureaus
- Washington Technology Center

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**APPENDIX C**

**Existing Cluster Profiles**

<b>Sector</b>	<b>Enterprises</b>	<b>Sales (MM)</b>	<b>Jobs</b>	<b>Wages (MM)</b>
Environmental Services (including Clean Technology)	301	\$227.3	1214	\$48.8
Marine (including Recreation & Tourism, Aquaculture & Commercial Fishing)	392	\$104.2	550	\$24.1
Wood Products	297	196.4	297	\$19.5

*Source: Washington State Department of Revenue, 2005 Data*

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**APPENDIX D**

**Water Quality & Clean Technology Stakeholders**

Hood Canal Coordinating Council  
IslandWood Environmental Education Center  
Karcher Creek Sewer District  
Kitsap County  
KPUD #1  
Marine Trades Skills Panel  
Mason County  
Port of Bremerton  
Port Gamble S'Klallam Tribe  
Puget Sound Energy  
School Districts in Kitsap and Mason Counties  
Skokomish Tribe  
Suquamish Tribe  
University of Washington – Sea Grant Program  
US Navy  
WA - Department of Ecology  
WA – Department of Fish and Wildlife